

CLAIMS

Please amend the claims as follows:

Please cancel originally-filed claims 1 through 32 without prejudice.

Please add new claims 33 through 64 as follows:

33. (New) An operating mechanism providing an opening force to a garage door, said operating mechanism comprising:

at least one side drum capable of rotation relative to a fixed axis, said side drum operatively connected to a garage door;

at least one cable drum coaxially mounted relative to said side drum for simultaneous rotation herewith;

at least one energy storage member operatively connected to said cable drum;

wherein said side drum and said cable drum are rotatable in a first direction to close said garage door and charge said energy storage member and a second direction to open said garage door and discharge said energy storage member to assist in opening said door.

34. (New) The operating mechanism of claim 33 wherein said side drum is operatively connected to said door by a first cable.

35. (New) The operating mechanism of claim 34 wherein said first cable has a first end and a second end, said first end being connected to said side drum to be wound onto or off of said side drum as said side drum rotates and said second end adapted to be attached to said door.

36. (New) The operating mechanism of claim 35 wherein said energy storage member is operatively connected to said cable drum by a second cable.

37. (New) The operating mechanism of claim 37 wherein said second cable has a first end and a second end, the first end of said second cable being connected to said cable drum to be wound onto or off of said cable drum as said cable drum rotates and the second end of said second cable being mounted in a fixed position.

38. (New) The operating mechanism of claim 37 wherein said first cable is wound onto said side drum when said second cable is unwound from said cable drum and wherein said first cable is unwound from said side drum when said second cable is wound onto said cable drum.

39. (New) The operating mechanism of claim 38 wherein said side drum is helical and includes a plurality of concentric graduations of increasing diameter wherein said first cable is wound onto or off of said graduations as said side drum rotates.

40. (New) The operating mechanism of claim 39 wherein each said graduation includes a groove and a lip wherein said first cable is wound onto and off of said grooves.

41. (New) The operating mechanism of claim 40 further comprising a shiv wheel connected to said energy storage member wherein said shiv wheel is configured to receive said second cable at least partially therearound.

42. (New) The operating mechanism of claim 41 further comprising a guide track mounted in a fixed position and a bracket operatively attaching said shiv wheel to said guide track, whereby said bracket and said shiv wheel move along said guide track toward or away from said cable drum as said second cable is wound respectively onto and off of said cable drum.

43. (New) The operating mechanism of claim 42 wherein said energy storage member is charged when said garage door is closed and said shiv wheel moves toward said cable drum and wherein said energy storage member is discharged to assist in opening the door when said garage door is opened and said shiv wheel moves away from said cable drum.

44. (New) The operating mechanism of claim 43 wherein said energy storage member comprises a gas strut having a cylinder and a piston rod wherein said shiv wheel is connected to said piston rod.

45. (New) The operating mechanism of claim 44 in which said gas strut is connected to said piston rod by an U-shaped bracket, whereby movement of said shiv wheel toward said cable drum as said door closes causes said piston rod to be forced into said cylinder; and movement of said shiv wheel away from said cable drum as said door is opened allows said piston rod to withdraw from said cylinder.

46. (New) The operating mechanism of claim 45 wherein the second end of the second cable is mounted in a fixed position by connection to said guide track.

47. (New) The operating mechanism of claim 46 wherein said guide track is mounted substantially parallel to the ceiling of the building in which said door is installed.

48. (New) The operating mechanism of claim 47 wherein said guide track is mounted on either side of said door opening.

49. (New) The operating mechanism of claim 48 wherein said operating mechanism does not utilize a torsion spring to assist in opening said garage door.

50. (New) An operating mechanism providing an opening force to a garage door, said operating mechanism comprising:

a shaft adapted to be mounted proximate an opening in a wall and capable of rotation about a fixed axis;

a pair of helical side drums mounted to said shaft, each said side drum being mounted proximate opposing free ends of said shaft and capable of rotation about said fixed axis, said side drums operatively connected to a garage door;

a pair of cable drums coaxially mounted relative to said side drums on said shaft for simultaneous rotation therewith about said fixed axis;

at least one energy storage member operatively connected to each said cable drum; and

wherein said side drums and said cable drums are rotatable in a first direction to close said garage door and charge said energy storage member and a second direction to open said garage door and discharge said energy storage member to assist in opening said door wherein said operating mechanism does not utilize a torsion spring to assist in opening said garage door.

51. (New) The operating mechanism of claim 50 wherein said side drums are operatively connected to said door by a first cable.

52. (New) The operating mechanism of claim 51 wherein said side drums include a plurality of concentric graduations of increasing diameter wherein said first cable is wound onto or off of said graduations as said side drums rotate.

53. (New) The operating mechanism of claim 52 wherein said first cable has a first end and a second end, said first end being connected to said side drum to be wound onto or off of said side drum as said side drum rotates and said second end adapted to be attached to said door.

54. (New) The operating mechanism of claim 53 wherein said at least one energy storage member is operatively connected to at least one cable drum by a second cable.

55. (New) The operating mechanism of claim 54 wherein said second cable has a first end and a second end, said first end of said second cable being connected to said cable drum to be wound onto or off of said cable drum as said cable drum rotates and said second end being mounted in a fixed position.

56. (New) The operating mechanism of claim 55 wherein said first cable is wound onto said side drum when said second cable is unwound from said cable drum and wherein said first cable is unwound from said side drum when said second cable is wound onto said cable drum.

57. (New) The operating mechanism of claim 56 wherein each said graduation includes a groove and a lip wherein said first cable is wound onto and off of said grooves.

58. (New) The operating mechanism of claim 57 further comprising a shiv wheel connected to said energy storage member wherein said shiv wheel is configured to receive said second cable at least partially therearound.

59. (New) The operating mechanism of claim 58 further comprising a guide track mounted in a fixed position and a bracket operatively attaching said shiv wheel to said guide track, whereby said bracket and said shiv wheel move along said guide track toward or away from said cable drum as said second cable is wound respectively onto and off of said cable drum.

60. (New) The operating mechanism of claim 59 wherein said energy storage member is charged when said garage door is closed and said shiv wheel moves

toward said cable drum and wherein said energy storage member is discharged to assist in opening said door when said garage door is opened and said shiv wheel moves away from said cable drum.

61. (New) The operating mechanism of claim 60 wherein each said at least one energy storage member comprises a gas strut having a cylinder and a piston rod.

62. (New) The operating mechanism of claim 61 wherein said shiv wheel is connected to at least one said piston rod.

63. (New) The operating mechanism of claim 62 in which at least one said gas strut is connected to said piston rod by a U-shaped bracket, whereby movement of said shiv wheel toward said cable drum as said door closes causes said piston rod to be forced into said cylinder and movement of said shiv wheel away from said cable drum as said door is opened allows said piston rod to withdraw from said cylinder.

64. (New) A method of raising or lowering a garage door comprising the steps of:

a) providing an operating mechanism that does not utilize a torsion spring to assist in opening the garage door, said operating mechanism comprising:

at least one side drum capable of rotation relative to a fixed axis, said side drum operatively connected to a garage door;

at least one cable drum coaxially mounted relative to said side drum for simultaneous rotation therewith; and

at least one energy storage member operatively connected to said cable drum; and

b) actuating said door operating mechanism to cause said side drum and said cable drum to rotate in a first direction to close said garage door and charge said